

## BOOK REVIEW

**Biological Control: Pacific Prospects.** By D.F. Waterhouse and K.R. Norris. ISBN 0 909605 50 5, 1987. 454 pp. price \$130.00. Inkata Press, Melbourne.

This book is the first to provide a comprehensive summary for the important invertebrate pests and weeds of the southwestern Pacific region and to update their status as targets for biological control.

The concept for this impressive book began when the authors Drs D.F. Waterhouse and K.R. Norris, both formerly of the CSIRO, Division of Entomology, prepared dossiers for a workshop held in 1985 in Tonga, on the biological control of insect pests and weeds of the South Pacific. This workshop was co-sponsored by the Ministry of Agriculture, Fisheries and Forests, Tonga, the German Agency for Technical cooperation (GTZ) and the Australian Centre for International Agricultural Research (ACIAR) and was attended by participants representing 20 Pacific countries. After the workshop the dossiers were updated to incorporate information provided by the participants, forming the basis of the text for this book.

In the introduction, methods for ranking the importance of each species of pest or weed are described and whether each is considered to be among the 10 most important species in each country. A table summarising the distribution and importance of each species then follows.

Chapter 2 provides a brief but very thorough treatment of "some factors relevant to biological control". This chapter deals with several aspects considered in more detail in other texts but it would be difficult to find elsewhere a more comprehensive summary of the most important aspects of biological control principles or programs. In straight-forward language, topics discussed include biological control concepts and techniques, fears concerning biological control, conflicts of interest, importance of taxonomy, host specificity, hyperparasites, selection of target pests and examples of early successes. In separate chapters the book deals with 17 weeds and 30 invertebrate pests, selected as those of highest importance in the region and grouped according to family. The region includes all southern Pacific islands that lie between Queensland, Papua New Guinea (included) and French Polynesia and includes also Guam (31°S-15°N, 140°W-135°E).

For each pest or weed the following information is provided: (i) scientific species and family names, (ii) English and local names, (iii) a map of distribution in the S.E. Pacific and a summary of biological control attempts, (iv) origin and distribution, (v) life cycle or characteristics, (vi) status as a pest or weed, (vii) control measures—chemical or cultural, (viii) associated pests, (ix) known natural enemies and (x) previous attempts at biological control. Where work on natural enemies has been carried out, tables show the name of the natural enemies, the nature or stage of the host attacked, countries where biological control has been attempted or where natural enemies have been recorded and the outcome of the work. Appropriate references are given for the information when available. A summary is provided of the potential for biological control for each target organism including specific characteristics that may affect the success or failure of any project.

Following 45 pages of references, the cross-referenced index of scientific names of insects provides a very valuable source of up-to-date information on the correct names to use for many Pacific insects. It will assist greatly in avoiding confusion created by the prior use of erroneous names in the literature. The pests and weeds are discussed mainly in relation to the Pacific Region but this book also contains valuable summaries for biology of the pests and their natural enemies from other regions, not easily located elsewhere in the literature. Moreover, a great deal of new information is presented from observations made by the authors and by personal communication from others.

Very few errors have crept in, some probably occurring at the type-setting stage. For example, table 46.2 listing natural enemy introductions for *Salvinia molesta*, shows *Cyrtobagous singularis* introduced to Namibia from Brazil via Australia in 1971, this record being incorrect although it was introduced as shown from Trinidad via Botswana. This error may have occurred when the origin of another weevil, *Cyrtobagous salviniae* was repeated from the next line of the table. In the same table *C. salviniae* was incorrectly shown as having been introduced to Zambia but it probably does occur there.

This book is nicely presented in a firm, moisture-proof cover, the excellent binding allowing all pages to rest flat when opened. The only disappointing aspects, in spite of the fact that the authors have waived royalties, is its price which will preclude purchase by many private individuals and will also prevent purchase by some libraries in developing countries where copies are most needed.\*

The invertebrate pests and weeds of the Pacific Region are constantly changing in importance but "Biological Control: Pacific Prospects" will provide a basis for their study for years to come. Assemblage and circulation of the dossiers has already stimulated new interest and accelerated biological control activities in the Pacific. There is no doubt that many new opportunities will follow, guided by this book and that it will provide a sustained impact on the direction of pest control in the region. The authors are to be congratulated for the exhaustive task in accumulating all the information now so readily available in one document.

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\* Editor's note. I have since been informed that ACIAR has distributed free of charge, copies of this book to institutions and individuals in most developing Pacific countries.